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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,023

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EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/694,023

Applicant(s)

ABE ET AL.

Examiner

Disler Paul

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/28/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. ("US2004/0136551 A1"). Although the conflicting claims are not identical, they are not patentably distinct from each other because the speakers mounted in a vehicle passenger space would have been obvious to one ordinary skill in the art to incorporate that feature in the copending application claim 1 for purpose of providing a passenger in the vehicle sound effect.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Iwamatsu ("US 4,856,064").

RE claim 1, Iwamatsu discloses an audio apparatus ("fig.3") comprising: a main speaker receiving an audio signal from a sound source and outputting sound of the sound source ("fig.3-main speaker (fig.3/Ls,RS) is output from sound source (R,L) and further see col.1 line 32-38"); a signal processing circuit for performing signal processing on the audio signal from the sound source to generate a sound effect audio signal for reproduction of a sound effect required of the sound of the sound source ("fig.3/element 2-DSP; col.1 line 51-60 and col.3 line 40-55 and line 58-67"); and at least one sound effect speaker receiving the sound effect audio signal generated by the signal

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processing circuit and outputting the sound effect required of the sound of the sound source ("fig.3/(FL,FR,RL,RR; col.4 line 10-13")).

Re claim 4, an audio apparatus according to claim 1, wherein the signal processing circuit performs delay processing on the audio signal sent from the sound source to delay a time at which the sound effect outputted from the sound effect speaker arrives at a position of a listener, hearing the sound of the sound source outputted from the main speaker and the sound effect outputted from the sound effect speaker, by a required set-time interval with respect to a time of arrival of the sound of the sound source outputted from the main speaker("Iwamatsu,fig.2-delay time done at speakers (FL,FR,RL,RR) via the signal processor at (fig.3/2A,2B) so sound outputted form main speakers and sound effect are outputted by a required set of time and further see col.3 line 37-55")).

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu ("US 4,856,064") and further in view of Yoshino et al. ("6,901,148 B2").

Re claim 2, an audio apparatus according to claim 1, with the signal processing circuit ("fig.3/2"), Iwamatsu fail to disclose the signal processing circuit being included with a frequency equalizer, a delay circuit, and an attenuator. However, Yoshino et al. discloses an automatic sound field correcting device in which the signal processing circuit being included with a frequency equalizer, a delay circuit, and an attenuator ("fig.3; col.6 line 58-62") for the purpose of performing frequency, level and delay characteristic correction for each channel. Therefore taking the combined teaching of Iwamatsu and Yoshino et al as a whole, it would have been obvious for one of ordinary skill in the art to modify Iwamatsu, by incorporating the signal processing with a frequency equalizer, a delay circuit, and an attenuator for the purpose of performing frequency, level and delay characteristic correction for each channel.

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Re claim 5, an audio apparatus according to claim 1, Iwamatsu fail to disclose the signal processing circuit performs attenuation processing on the audio signal sent from the sound source to decrease a sound pressure level. However, Yoshino et al. disclose an automatic sound field correcting device in which the signal processing circuit performs attenuation processing on the audio signal sent from the sound source to decrease a sound pressure level ("Yoshino;fig.3/ATG;fig.4/12;col.11line 17; col.8 line 55-56") for the purpose of adjusting/correcting sound pressure level of audio system. Therefore taking the combined teaching of Iwamatsu and Yoshino et al. as a whole, it would have been obvious for one skill in ordinary art to modify Iwamatsu by incorporating the signal processing circuit performs attenuation processing on the audio signal sent from the sound source to decrease a sound pressure level for the purpose of adjusting/correcting sound pressure level of audio system.

The sound pressure within a required set-time interval starting from a rise time of the sound effect outputted from the sound effect speaker in a position of a listener hearing the sound of the sound source outputted from the main speaker and the sound effect outputted from the sound effect speaker ("fig.2-rise-time delay for sound effect to be outputted"), to a

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required set value smaller than a sound pressure level within the predetermined set-time interval starting from a rise time of the sound of the source sound outputted from the main speaker ("fig.2-time delay and spacing between each speaker sound effect denotes predetermined set-time already known therefore causing with attenuator for adjusting the sound pressure level at sound effect speakers to be less than or equal to main speakers").

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu ("US 4,856,064") and further in view of Yoshino et al. ("6,901,148 B2") and further in view of Iida et al. ("US 5,761,315").

Re claim 3, an audio apparatus according to claim 2, the combined teaching of Iwamatsu and Yoshino et al. as a whole, fail to teach the signal processing circuit further includes a reverberation addition circuit. However, Iida et al. teach of a surround signal processing apparatus in which the signal processing circuit further includes a reverberation addition circuit ("fig.19/10,col.10 line 48; col.23 line 5-6") for the purpose of conducting the specific processing of reverberation. Therefore taking the combined teaching of Iwamatsu and Yoshino



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et al. and Iida et al. as a whole, it would have been obvious for one of the ordinary skill in the art to modify Iwamatsu and Yoshino et al. as whole, by incorporating the signal processing circuit further includes a reverberation addition circuit for the purpose of conducting the specific processing of reverberation.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu ("US 4,856,064") and further in view of Lee ("US 2003/0021433 A1").

Re claim 6, an audio apparatus according to claim 1, Iwamatsu fail to disclose the audio apparatus is a vehicle-mounted audio apparatus using a passenger chamber of a vehicle as a sound-reproduction space for the main speaker and the sound effect speaker. However, Lee disclose an audio apparatus in which is a vehicle-mounted audio apparatus using a passenger chamber of a vehicle as a sound-reproduction space for the main speaker and the sound effect speaker ("fig.2-4; fig.10") for the purpose of providing a passenger in the vehicle with balance

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stereo sound. Therefore taking the combined teaching of Iwamatsu and Lee as a whole it would have been obvious for one of ordinary skill in the art to modify Iwamatsu by incorporating the audio apparatus is a vehicle-mounted audio apparatus using a passenger chamber of a vehicle as a sound-reproduction space for the main speaker and the sound effect speaker for the purpose of providing a passenger in the vehicle with balance stereo sound.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ouchi et al. ("US 6,072,879") disclose a sound field control unit with Digital signal processor being comprised with an attenuator and frequency equalizer for sound effect.

Koyano et al. ("US 5,828,763") disclose a sound reproduction system in which one speaker is couple to a phase shifter for sound effect.

### ***Contact***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-272-2222. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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